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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/784,012

02/20/2004

Pramod K. Srivastava

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EXAMINER

SANG, HONG

ART UNIT

PAPER NUMBER

1643

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/784,012	Applicant(s) SRIVASTAVA, PRAMOD K.	
	Examiner Hong Sang	Art Unit 1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,9,10,17,19,20,23,25-32,35 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,9,10,17,19,20,23,25-32,35 and 40-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/6/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

RE: Srivastava

1. Applicant's response filed on 12/6/2006 and supplemental amendment filed 1/17/2007 are acknowledged. Claims 2, 9, 10, 20, 23, 25-32 and 35 are amended. New claims 40-45 are added. Claims 1, 3-8, 11-16, 18, 21, 22, 24, 33, 34 and 36-39 are cancelled. Claim 2, 9, 10, 17, 19, 20, 23, 25-32, 35 and 40-45 are now pending.
2. Claims Claim 2, 9, 10, 17, 19, 20, 23, 25-32, 35 and 40-45 are under examination.
3. The information disclosure statement (IDS) filed on 12/6/2006 has been considered. A signed copy is attached hereto.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Objections Withdrawn

5. The objections to claims 1-3, 15, 17, 19, 20, 23, 25-33 and 35 because the claims contain non-elected inventions i.e. heat shock protein is withdrawn in view of applicants' amendment to the claims.

Rejections Withdrawn

6. The rejection of claims 1-3, 15, 17, 19, 20, 23, 25-33 and 35 under 35 U.S.C. 112, second paragraph, as being indefinite for reciting the phrase "at least 50% of the different proteins presented in cells" in claims 1-3 is withdrawn in view of applicants' amendment to the claims.

Art Unit: 1643

7. The rejection of claim 19 under 35 U.S.C. 112, second paragraph, as being indefinite because of insufficient antecedent basis is withdrawn in view of applicants' amendment to the claims.

8. The rejection of claims 1-3, 15, 17, 19, 20, 23, 25-33 and 35 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of treating a type of cancer comprising administering to a subject in need of such treatment a composition comprising a population of complexes, said complexes comprising alpha-2-macroglobulin and antigenic proteins, does not reasonably provide enablement for a method of preventing a type of cancer comprising administering to a subject in need of such prevention a composition comprising a population of complexes, said complexes comprising alpha-2-macroglobulin and antigenic proteins basis is withdrawn in view of applicants' amendment to the claims.

Response to Arguments

9. The rejection of claims 2, 9, 10, 17, 19, 20, 23, 25-33, 35, and new claims 42, and 43 under 35 U.S.C. 102(e) as being anticipated by Li (US Patent No. 6,984,389, Data of Patent 1/10/2006, earliest effective filing date at least 12/16/2002) is maintained.

Claims 9 and 10, which were previously drawn to non-elected inventions, are included in this rejection in view of applicant's amendment to the claims to change the phrase "heat shock protein" to "alpha-2-marcoglobulin".

The response states that Li does not teach the in vitro made complexes according to claim 2, in which a protein preparation is digested with one or more proteases to produce the antigenic peptides used in the in vitro complexing step. The response states that the complexes taught by Li are different from the complexes made according to claim 2 because the complexes of Li are either (1) endogenously (not in vitro) complexed, i.e., the α 2M and antigenic peptides are isolated already complexed with each other from antigenic cells or tissues (see e.g., Li at col. 8, lines 15-23); or (2) complexed in vitro but without the protease digestion step of claim 2. The response states that the endogenous complexes of Li, which are isolated from cells or tissues, do not anticipate the complexes of claim 2, which are made in vitro, because the in vitro made complexes would be expected to comprise different peptides in different amounts than complexes purified from a cell (see response page 7, 2nd and 3rd paragraph). This is true for several reasons. The response states that the pool of peptides available for complexing within a cell will differ from the pool available for complexing according to the in vitro methods recited in the claim because proteins and peptides are compartmentalized within a cell, thereby limiting the particular proteins and peptides available for complexing. The response states that the protease digestion specified in claim 2 produces a population of peptides that does not occur naturally in the cell, and therefore would not be available for complexing within the cell according to the endogenous method of Li. The response states that the in vitro complexing method of Li does not teach protease digestion of proteins as specified in claim 2 (see response page 8, 2nd paragraph). The response states that the teaching in Li of a method utilizing

protease digestion is one in which the protease is combined with both the $\alpha 2M$ and the peptide in the complexing step (see response page 8, 3rd paragraph), which is different from the method of claim 2, in which protease digestion is used to treat the protein preparation prior to the complexing step in order to produce a population of peptides for complexing. The response states that Li does not teach such a step of digesting a protein preparation to produce a population of peptides which is then used for complexing with $\alpha 2M$. The response specifically states that the in vitro made complexes would be expected to comprise different peptides in different amount than complexes purified from a cell.

Applicants' arguments have been carefully considered but are deemed not found persuasive. Li explicitly teaches that the $\alpha 2M$ preparation can be made in vitro by complexing $\alpha 2M$ and antigenic peptides. For example, Li teaches recombinant expression of $\alpha 2M$ and antigenic peptides (see column 39, lines 5-6). Li teaches that $\alpha 2M$ and antigenic peptides can also be chemically synthesized (see column 41, line 60). Li teaches using exogeneous antigenic molecules for making $\alpha 2M$ complexes (see column 44, lines 41). Specifically, Li teaches that the peptides either isolated by the procedures taught in the specification or chemically synthesized or recombinantly produced may be reconstituted with a variety of purified natural or recombinant stress proteins in vitro to generate immunogenic non-covalent stress protein-antigenic molecules complexes (see column 46, lines 20-29). Li teaches that the identity of the antigenic molecules of the $\alpha 2M$ peptide-complexes need not be known (see column 42, lines 37-40). Li further teaches that exogenous antigen or antigenic or immunogenic

Art Unit: 1643

fragments or derivatives thereof can be complexed to stress proteins (see column 46, lines 29-31). Therefore, the α 2M complexes of Li encompass non-naturally occurring antigenic peptides. Applicants argue that Li does not teach digesting the protein preparation with a protease in the absence of α 2M. The claims as written do not preclude digesting the protein in the presence of α 2M. Moreover, the digestion of the antigenic proteins or peptides by a protease would occur anyway regardless of the presence or absence of α 2M. Because the instant claims do not specify the amount and the type of the peptides in the claimed α 2M complexes, the α 2M complexes of Li, which encompass different types of naturally and non-naturally occurring antigenic peptides in different amount, appear to be the same as the claimed α 2M complexes. Therefore, the α 2M complexes of Li anticipate the instant invention.

Furthermore, while the instant claims are drawn to process claims, the product used in the process is recited by means of product by process.

MPEP 2113 [R-1] states: "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). MPEP further states "The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the

Art Unit: 1643

product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garner*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979). In the instant case, because the instant claims do not specify the amount and the type of the peptides in the claimed α 2M complexes, the α 2M complexes of Li, which encompass different types of naturally and non-naturally occurring antigenic peptides in different amounts, appear to be the same as the claimed α 2M complexes. Therefore, the α 2M complexes of Li anticipate the instant invention.

Li teaches α 2M complexes wherein the peptide is covalently and non-covalently bond to α 2M (see column 12, lines 1-2). Li teaches the alpha-2-macroglobulin preparation can be administered concurrently, before, or after the administration of the treatment modality, wherein the treatment modality include chemotherapeutic agents (see column 6, lines 16-40). Li teaches digestion of peptides with protease (see column 48, lines 57-58). Therefore, Li teaches the limitation of claims 9, 10 and new claims 42 and 43.

10. The rejection of claims 2, 9, 10, 17, 19, 20, 23, 25-33, 35, and new claims 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armen (WO 02/11669A2, 2/14/2002) in view of the teachings of Srivastava (US Patent No. 6,168,793, Date of Patent 1/2/2001).

Art Unit: 1643

Claims 9 and 10, which were previously drawn to non-elected inventions, are included in this rejection in view of applicant's amendment to the claims to change the phrase "heat shock protein" to "alpha-2-marcoglobulin".

The response states that Armen does not teach or suggest the in vitro made complexes according to claim 2, instead, Armen teaches that for in vitro complexing, a selected antigen is used on the basis of its known immunogenicity or pools of peptides are used that are selected on the basis of their binding to either heat shock proteins, α 2M molecules or MHC molecule. The response states that Armen uses a protease step for formation of the complexes and not to produce a population of antigenic peptides for complexing according to claim 2. The response states that there is no motivation in Armen to use protease digestion to produce a population of peptides according to the method of claim 2 because, according to Armen, peptides (or proteins) are selected for complexing based on their antigenicity or immunogenicity (i.e., either they are known antigens or potential antigens based on their binding to stress proteins or MHC molecules) since the use of protease digestion according to claim 2 could destroy the antigenic determinants of such peptides (or proteins) selected for their antigenicity, there would be no motivation to include such a step in the method of Armen. The response states that Srivastava teaches no more than the isolation of endogenous heat shock protein-peptide complexes from cells and Srivastava does not teach or suggest complexes such as those made in vitro according to the method of claim 2. The response states that the differences between complexes made in vitro

Art Unit: 1643

according to the claims and endogenous complexes isolated from cells are described above.

Applicants' arguments have been carefully considered but are deemed not found persuasive. Armen teaches that the α 2M, and/or antigenic molecules are preferably autologous to the individual, and can be isolated as naturally-occurring complexes from cancer cells or can be chemically synthesized or recombinantly produced (see page 15, lines 3-7). Armen teaches that the α 2M/antigenic peptide complexes can be prepared in the presence of a protease (see page 22, lines 34-36 and page 23). Armen teaches that antigenic molecule refers to a peptide or other molecule with which hsps are endogenously associated in vivo (e.g. in cancerous tissue), as well as exogenous antigens/immonogens (i.e. with which the hsps are not complexed in vivo) or antigenic/immunogenic fragments and derivatives thereof (see page 14, lines 24-28). Armen teaches such exogenous antigens and fragments and derivatives thereof for use in complexing with hsp or α 2M can be selected from among those known in the art (see page 14, lines 28-30). Therefore, the α 2M complexes of Armen encompass the non-naturally occurring antigenic peptides. While Armen uses protease for different purpose, because the protease is mixed with antigenic peptides, the protease would cleavage the antigenic peptides to form fragments of antigenic peptides regardless the presence of absence of α 2M. Moreover, the instant claim does not preclude digesting the protein preparation in the presence of α 2M. Because the instant claims do not specify the amount and the type of the peptides in the claimed α 2M complexes, the α 2M complexes of Armen, which encompass different types of naturally and non-

Art Unit: 1643

naturally occurring antigenic peptides in different amounts, appear to the same as the claimed α 2M complexes. Therefore, the α 2M complexes of Armen anticipate the instant invention.

Furthermore, while the instant claims are drawn to process claims, the product used in the process is recited by means of product by process.

MPEP 2113 [R-1] states: “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). MPEP further states “The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979). In the instant cancer, because the instant claims do not specify the amount and the type of the peptides in the claimed α 2M complexes, the α 2M complexes of Armen, which encompass different types of naturally and non-naturally occurring antigenic peptides in different amounts, appear to be the same as the claimed α 2M complexes. Therefore, the α 2M complexes of Armen read on the instant invention.

It would have been obvious to modify the method of Armen to use a composition comprising a population of α 2M complexes to treat a metastatic cancer because Srivastava teaches the complexes that comprise a population of α 2M complexes are capable of binding the entire spectrum of antigenic peptides in a tumor cell, and as such they would be more effective than a composition of which comprises only one or three α 2M complexes

Armen teaches α 2M complexes wherein the peptide may be covalently and non-covalently bond to α 2M (see page 13, lines 10-14). Armen teaches the alpha-2-marcoglobulin preparation can be administered concurrently with chemotherapy (see page 73, lines 28-29). Armen teaches digestion of peptides with protease (see (see page 22, lines 34-36 and page 23). Armen teaches alpha-2-marcoglobulin preparation comprising an adjuvant such as saponin or XS-21 (see page 14, lines 17-19 and line 32). Furthermore, Srivastava teaches immunogenic composition comprising one or more adjuvants, such as muramyl dipeptide, and QS-21 (see column 4, lines 9-14). Therefore, Armen and/or Srivastava teach the limitations of claims 9, 10 and new claims 40-43.

11. The rejection of claims 2, 9, 10, 17, 19, 20, 23, 25-33, 35 and new claims 40-43 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 48-50 of U.S. Patent No. 6,984,389, in view of the teachings of Armen (WO 02/11669A2, 2/14/2002) is maintained.

The response states that '389 patent do not teach or suggest the in vitro made complexes according to claim 2. The response states that the endogenous complexes of '389 patent differ from the in vitro made complexes of claim 2 because the in vitro made complexes would be expected to comprise different peptides in different amounts than complexes purified from tissue. The response states that Armen does not teach or suggest the protease digestion specified in claim 2.

Applicants' arguments have been carefully considered but are not found persuasive. The reason that the α 2M complexes of Armen anticipate the instantly claimed α 2M complexes has been set forth above (see paragraph 10). While '389 patent does not teach using in vitro made α 2M complexes, these deficiencies are made up for in the teachings of Armen. Armen teaches that the α 2M, and/or antigenic molecules are preferably autologous to the individual, and can be isolated as naturally-occurring complexes from cancer cells or can be chemically synthesized or recombinantly produced (see page 15, lines 3-7). Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made and one would have been motivated to modify the method of claims 48-50 of Patent '389 to use the α 2M/antigenic peptide complex of Armen to treat cancer because Armen teaches that cancer can be treated by the α 2M/antigenic peptide complexes that are either isolated from cancer cells or made in vitro.

Armen teaches α 2M complexes wherein the peptide may be covalently and non-covalently bond to α 2M (see page 13, lines 10-14). Armen teaches the alpha-2-marcoglobulin preparation can be administered concurrently with chemotherapy (see

page 73, lines 28-29). Armen teaches digestion of peptides with protease (see (see page 22, lines 34-36 and page 23). Armen teaches alpha-2-marcoglobulin preparation comprising an adjuvant such as saponin or XS-21 (see page 14, lines 17-19 and line 32). Therefore, Armen teaches the limitations of claims 9, 10 and new claims 40-43.

12. The rejection of claims 2, 9, 10, 17, 19, 20, 23, 25-33, 35 and 40-43 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2-4 and 8 of copending Application No. 10/546,106 in view of in view of the teachings of Armen (WO 02/11669A2, 2/14/2002) is maintained.

The response states that the peptides comprising the complexes isolated from a bodily fluid are substantially different from the complexes made according to claim 2. The response states that Armen does not rectify these deficiencies.

Applicants' arguments have been carefully considered but are not found persuasive. The reason that the α 2M complexes of Armen anticipate the instantly claimed α 2M complexes has been set forth above (see paragraph 10). While '106 publication does not teach using in vitro made α 2M complexes, these deficiencies are made up for in the teachings of Armen. Armen teaches that the α 2M, and/or antigenic molecules are preferably autologous to the individual, and can be isolated as naturally-occurring complexes from cancer cells or can be chemically synthesized or recombinantly produced (see page 15, lines 3-7). Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made and one would have been motivated to modify the method of claims 2, 4 and 8 of Publication

'106 to use the α 2M/antigenic peptide complex of Armen to treat cancer because Armen teaches that cancer can be treated by the α 2M/antigenic peptide complexes that are either isolated from cancer cells or made in vitro.

Armen teaches α 2M complexes wherein the peptide may be covalently and non-covalently bond to α 2M (see page 13, lines 10-14). Armen teaches the alpha-2-marcoglobulin preparation can be administered concurrently with chemotherapy (see page 73, lines 28-29). Armen teaches digestion of peptides with protease (see (see page 22, lines 34-36 and page 23). Armen teaches alpha-2-marcoglobulin preparation comprising an adjuvant such as saponin or XS-21 (see page 14, lines 17-19 and line 32). Therefore, Armen teaches the limitations of claims 9, 10 and new claims 40-43.

New Grounds of Rejections

13. Claims 2, 9, 10, 17, 19, 20, 23, 25-33, 35 and 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (US Patent No. 6,984,389, Data of Patent 1/10/2006, earliest effective filing date at least 12/16/2002) in view of the teachings of Srivastava et al. (US 2001/0034042, Pub. Date: 10/25/01, earliest effective filing date at least 1/12/2001).

The teachings of Li have been set forth above as they apply to claims 2, 9, 10, 17, 19, 20, 23, 25-33, 35 and new claims 42-43 (see paragraph 9 above).

Li does not teach subjecting said protein preparation to cleavage by the one or more non-enzymatic methods, wherein the cleavage is cyanogens bromide cleavage. Li does not teach one or more adjuvants, wherein the adjuvant is selected from the

Art Unit: 1643

group consisting of QS-21, monophosphoryl lipid A, muramyl dipeptide, threonyl-muramyl dipeptide, a glucosamine disaccharide, and Leishmania elongation factor. However, these deficiencies are made up for in the teachings of Srivastava.

Srivastava teaches that HPBF-antigenic complexes may optionally be administered with one or more adjuvants in order to enhance the immunogenic response, wherein the adjuvants can be muramyl dipeptide, monophosphoryl lipid A, polyphosphazene (see paragraph [0325]). Srivastava teaches peptide-binding HSP fragments may be obtained by chemical or enzymatic (protease) cleavage of native or recombinant HSPs, wherein the specific chemical cleavage can be performed by cyanogen bromide (see paragraph [0192]). Therefore, the combination of Li and Srivastava teach new claims 40-45.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Li to include one or more adjuvants in the composition and to digest α 2M complexes with cyanogens bromide cleavage in view of the teachings of Srivastava. One would have been motivated to do so because Srivastava teaches that adjuvants enhances the immunogenic response and non-enzymatic agent such as cyanogens bromide works as well as protease. Moreover, one of ordinary skill in the art would have a reasonable expectation of success to do so because Srivastava teaches a method of treating a cancer using an hsp composition comprising one or more adjuvants and Srivastava teaches digestion of hsp complexes with cyanogens bromide.

Conclusion

14. No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Sang whose telephone number is (571) 272 8145. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry R. Helms can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hong Sang
Art Unit 1643
Feb. 1, 2006


CHRISTOPHER H. YAEN
PRIMARY EXAMINER